What is claimed is:

1. A building material, comprising:

a fiber-reinforced cement formulation; and

at least one low density additive incorporated into the formulation, wherein the at least one low density additive lowers the density of the building material as compared to a building material having an equivalent fiber-reinforced cement formulation without the low density additive, while at the same time the building material with the at least one low density additive has less than a 20% increase in moisture expansion as compared to a building material having an equivalent fiber-reinforced cement formulation without the at least one low density additive,

wherein the density of the building material is less than 1.2 g/cm^3.

2. The building material of claim 1, wherein the density of the building material is about 0.9 to 1.1 g/cm^3.

3. The building material of claim 1, wherein the low density additive decreases the moisture expansion of the building material as compared to a building material having an equivalent fiber-reinforced cement formulation without the low density additive.

4. The building material of claim 1, wherein the median particle size of the low density additive is between about 20 and 120 micrometers.

5. The building material of claim 1, wherein the low density additive is volcanic ash incorporated up to about 2 to 50 wt. %.

6. The building material of claim 1, wherein the low density additive comprises microspheres incorporated up to about 2% to 90 wt. %.

7. The building material of claim 6, wherein the formulation further incorporates a different low density additive in addition to the microspheres.

8. The building material of claim 7, wherein the different low density additive is a low bulk density calcium silicate hydrate incorporated up to about 30 wt. %.

9. The building material of claim 1, wherein the formulation incorporates greater than about 4 wt. % fibers.

10. A building material formulation used to form a building article, comprising:

a hydraulic binder;

an aggregate;

fibers; and

at least one low density additive incorporated into the formulation, wherein the at least one low density additive lowers the density of the building article as compared to a building article having an equivalent fiber-reinforced cement formulation without the low density additive, while at the same time the building article with the at least one low density additive has less than a 20% increase in moisture expansion as compared to a building article having an equivalent fiber-reinforced cement formulation without the at least one low density additive;

wherein the density of the building article is less than 1.2 g/cm^3.

11. The building material formulation of claim 10, wherein the hydraulic binder is Portland cement incorporated into the formulation at a range of between about 5 to 80 wt. %.

12. The building material formulation of claim 10, wherein the aggregate is a silica source incorporated into the formulation up to about 80 wt. %.

13. The building material formulation of claim 10, wherein the fiber is cellulose fiber incorporated into the formulation at a range of between about 4 to 15 wt. %.

14. The building material formulation of claim 10, wherein the at least one low density additive is one or more of expanded volcanic ash with a bulk density of about 2 to 25 lbs/cu. ft, microspheres, ceramic microspheres, and low bulk density calcium silicate hydrate.

15. The building material formulation of claim 10, wherein thermal shrinkage of the formed article is between about 1% and 5%.

16. A method of forming a low density building material, comprising:

mixing a building material formulation with water to create a slurry, wherein the formulation comprises a hydraulic binder, fibers, aggregate, and at least one low density additive, wherein the at least one low density additive lowers the density of the building material as compared to a building material having an equivalent fiber-reinforced cement formulation without the low density additive, while at the same time the building material with the at least one low density additive has less than a 20% increase in moisture expansion as compared to a building article having an equivalent fiber-reinforced cement formulation without the at least one low density additive;

processing the slurry into a green shaped fiber cement building article; and

curing the green shaped fiber cement building article to form the low density building material,

wherein the low density building material when formed has a density of less than about 1.2 g/cm^3.

17. The method of claim 16, further comprising mixing additives with the hydraulic binder, fibers, aggregate, at least one low density additive and water to create the slurry.

18. The method of claim 16, wherein moisture expansion of the formed low density building material is about 0.17% or less.

19. The method of claim 16, wherein the formed low density building material is cured by autoclaving.

20. The method of claim 16, wherein thermal shrinkage of the formed low density building material is between about 1% and 5%.

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